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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,586	09/04/2003	Yu-Lien Huang	67,200-1133	7926

7590 04/04/2006

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EXAMINER

LUND, JEFFRIE ROBERT

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/656,586

Applicant(s)

HUANG ET AL.

Examiner

Jeffrie R. Lund

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 9-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-8, in the reply filed on July 25, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Drawings

2. The drawings are objected to because the confinement ring in figures 2 and 4 is drawn with dashed lines indicating a hidden part. The dashed line should be solid to indicate a cross section. The drawing must be corrected to show the confine ring as a ring. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Lilleland et al, US Patent 6,073,577, in view of Ohta, US Patent 4,526,132.

Lilleland et al teaches an apparatus that includes: a process chamber 42 having chamber wall (lid, i.e. top wall, upper most layer of figure 1 which seals channel 13 and through which the gas inlet 20, and cooling water inlets 13a pass); a showerhead 14 with a gas mix plate 22; and a confine ring 17. The showerhead is held by a plurality of bolts extending through the chamber wall into the showerhead. The bolts include a fastener head and threaded shank. (Figure 1, column 2 line 22 through column 3 line 14)

Lilleland et al differs from the present invention in that Lilleland et al does not teach the showerhead is held by a plurality of lateral fasteners.

Ohta et al teaches supporting a gas source 37 with a plurality of lateral screws 52. (Figure 3)

The motivation for replacing the vertical screws of Lilleland et al with the lateral screws of Ohta et al is to provide an alternate and equivalent means of mounting the

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showerhead of Lilleland et al. Furthermore, it has been held that the rearrangement of parts is obvious (see *In re Japikse* 86 USPQ 70).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the showerhead of Lilleland et al using a plurality of lateral screws as taught by Ohta et al.

5. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al, US Patent Application Publication 2002/0000197, in view of Ohta, US Patent 4,526,132.

Masuda et al teaches a processing apparatus 1 that includes a process chamber 16 having a chamber wall, a showerhead 12 provided in the process chamber. (Entire document)

Masuda et al differs from the present invention in that Masuda et al does not teach the showerhead is held by a plurality of lateral fasteners with a fastener head and threaded shank.

Ohta et al teaches supporting a gas source 37 with a plurality of lateral screws 52. (Figure 3)

The motivation for attaching the showerhead of Masuda et al with the lateral screws of Ohta et al, through the chamber wall into the showerhead, is to provide a means of mounting the showerhead of Masuda et al as required by Masuda et al but not described.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the showerhead of Masuda et al using a plurality of lateral screws as taught by Ohta et al.

6. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al US Patent Application Publication 2002/0000197, and Ohta, US Patent 4,526,132, as applied to claims 1 and 2 above, and further in view of Lilleland et al, US Patent 6,073,577.

Masuda et al and Ohta et al differ from the present invention in that they do not teach a gas mixing plate and confinement ring.

Lilleland et al was discussed above and includes a showerhead with a gas mixing plate and confinement ring.

The motivation for adding a mixing plate and confinement ring of Lilleland et al to the apparatus of Masuda et al and Ohta et al is to more uniformly distribute the processing gas.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the gas mining plate and confinement ring of Lilleland et al to the apparatus of Masuda et al and Ohta et al.

Response to Arguments

7. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to

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applicant's disclosure. The cited art teaches the technological background of the invention.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Thursday (6:30 am-6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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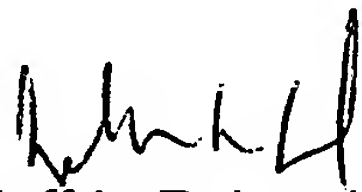
Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrie R. Lund
Primary Examiner
Art Unit 1763

JRL
4/2/06